

[Current claim 2:]

- 1           2. The method of claim 1 wherein the communicating data step further  
2 comprises the steps of:  
3           detecting the service interruption;  
4           establishing an IP tunnel to the endpoint using one of the alternative IP  
5 addresses;  
6           and  
7           forwarding the data via the IP tunnel to the endpoint.
- 

Cancel claim 3.

Current claim 4:

---

- 1           4. A method for use in providing Internet service to an endpoint via a primary  
2 communications channel, the method comprising the steps of:  
3           storing a routing table comprising an first Internet Protocol (IP) address  
4 associated with routing data to an endpoint via the primary communications channel  
5 and a second IP address associated with routing data to the endpoint over a secondary  
6 communications channel; and  
7           routing data to the endpoint as a function of the routing table such that during  
8 periods of service interruption on the primary communications channel data is routed to  
9 the endpoint via the secondary communications channel, whereas data is routed to the  
10 endpoint via the primary communications channel otherwise.

[Current claim 5:]

- 1           5. The method of claim 4 wherein the routing data step further comprises the  
2 steps of:  
3           detecting the service interruption;  
4           establishing an IP tunnel to the endpoint using the second IP address;  
5           and  
6           forwarding the data via the IP tunnel to the endpoint.
- 

Cancel claim 6.

Current claim 7:

1           7. A method of communicating over a cable television (CATV) access network  
2 having a cable modem termination system (CMTS) interface, the method comprising  
3 the steps of:

4           establishing a connection between the CMTS and a distant cable modem (CM);  
5           storing routing information associated with the connection, the routing  
6 information including at least a CM identifier, an identity of an RF link on the CATV  
7 access network over which the CMTS forwards data packets to the CM, and a tunnel  
8 interface identifier over which the CMTS forwards data packets to the CM over a  
9 different network; and

10          communicating data packets to the CM by translating the CM identifier to either  
11 the identified RF link or the tunnel interface identifier, wherein the tunnel is invoked in  
12 the event of a CATV interface failure.

B3  
con  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
[Current claim 8:]

1           8. The method of claim 7 wherein CATV access network provides one-way, or  
2 downstream, communications to the CM.

[Current claim 9:]

1           9. The method of claim 7 wherein CATV access network provides two-way  
2 communications to the CM.

[Current claim 10:]

1           10. The method of claim 7 wherein the CM identifier over the CATV network is  
2 logically derived from a CMTS subnetwork identifier of the CMTS.

[Current claim 11:]

1           11. The method of claim 7 wherein the CM identifier over the different network is  
2 logically derived from an Internet Service Provider (ISP) subnetwork identifier of a  
3 Network Access Server (NAS) of the ISP.

[Current claim 12:]

1           12. Apparatus for use in providing Internet service to an endpoint, the apparatus  
2 comprising:

3 a device for (a) specifying routing information for an endpoint, wherein the  
4 routing information specifies primary and alternative Internet Protocol (IP) addresses,  
5 and (b) communicating data to the endpoint using the specified primary IP address  
6 except during periods of service interruption in which one of the alternative IP  
7 addresses are used.

[Current claim 13:]

1 13. The apparatus of claim 12 wherein the device is a part of a cable television  
2 network (CATV).

[Current claim 14:]

B3  
com 14  
1 14. Apparatus for use in providing Internet service to an endpoint, the apparatus  
2 comprising:

3 a device for routing data to the endpoint as a function of a routing table stored  
4 therein such that during periods of service interruption on a primary communications  
5 channel data is routed to the endpoint via a secondary communications channel,  
6 whereas data is routed to the endpoint via the primary communications channel  
7 otherwise.

[Current claim 15:]

1 15. The apparatus of claim 14 wherein the device is a part of a cable television  
2 network (CATV).

[Current claim 16:]

1 16. A system for use in providing Internet service, the system comprising:  
2 a cable head-end router for providing Internet Protocol (IP) packets intended for  
3 subsequent conveyance over a primary channel; and  
4 a cable modem data termination system responsive to the provided IP packets  
5 for routing the IP packets to an endpoint as a function of a routing table stored therein  
6 such that during periods of service interruption on the primary communications channel  
7 the IP packets are routed to the endpoint via a secondary communications channel,  
8 whereas the IP packets are routed to the endpoint via the primary communications  
9 channel otherwise.

[Current claim 17:]

1 17. A system for use in providing Internet service, the system comprising:

2 a cable head-end router for providing Internet Protocol (IP) packets that include  
3 a destination field having a value associated with a first IP address; and  
4 a cable modem data termination system responsive to the provided IP packets  
5 for communicating the IP packets to the endpoint using the first IP address except  
6 during periods of service interruption in which an alternative IP address is used.

New claims 18 – 32:

1 --18. A method for use in providing Internet service to an endpoint, the method  
2 comprising the steps of:  
3 specifying routing information for an endpoint, wherein the routing information  
4 specifies primary and alternative Internet Protocol (IP) addresses; and  
5 communicating data to the endpoint using the specified primary IP address over  
6 a first cable-based communications channel except during periods of service  
7 interruption in which one of the alternative IP addresses are used for communicating  
8 over a second non-cable-based communications channel.--

1 --19. The method of claim 18 wherein the communicating data step further  
2 comprises the steps of:  
3 detecting the service interruption;  
4 establishing an IP tunnel to the endpoint using one of the alternative IP  
5 addresses;  
6 and  
7 forwarding the data via the IP tunnel to the endpoint.--

1 --20. A method for use in providing Internet service to an endpoint via a primary  
2 communications channel, the method comprising the steps of:  
3 storing a routing table comprising an first Internet Protocol (IP) address  
4 associated with routing data to an endpoint via the primary communications channel  
5 and a second IP address associated with routing data to the endpoint over a secondary  
6 communications channel; and  
7 routing data to the endpoint as a function of the routing table such that during  
8 periods of service interruption on the primary communications channel data is routed to  
9 the endpoint via the secondary communications channel, whereas data is routed to the  
10 endpoint via the primary communications channel otherwise and wherein the primary  
11 communications channel and the secondary communications channel are supported by  
12 physically different communications mediums.--

1 --21. The method of claim 20 wherein the routing data step further comprises  
2 the steps of:

3 detecting the service interruption;

4 establishing an IP tunnel to the endpoint using the second IP address;

5 and

6 forwarding the data via the IP tunnel to the endpoint.--

1 --22. A method of communicating over a cable television (CATV) access  
2 network having a cable modem termination system (CMTS) interface, the method  
3 comprising the steps of:

4 establishing a connection between the CMTS and a distant cable modem (CM);

5 storing routing information associated with the connection, the routing  
6 information including at least a CM identifier, an identity of an RF link on the CATV  
7 access network over which the CMTS forwards data packets to the CM, and a tunnel  
8 interface identifier over which the CMTS forwards data packets to the CM over a  
9 switched telephone network; and

10 communicating data packets to the CM by translating the CM identifier to either  
11 the identified RF link or the tunnel interface identifier, wherein the tunnel is invoked in  
12 the event of a CATV interface failure.--

1 --23. The method of claim 22 wherein CATV access network provides one-way,  
2 or downstream, communications to the CM.--

1 --24. The method of claim 22 wherein CATV access network provides two-way  
2 communications to the CM.--

1 --25. The method of claim 22 wherein the CM identifier over the CATV network  
2 is logically derived from a CMTS subnetwork identifier of the CMTS. --

1 --26. The method of claim 22 wherein the CM identifier over the switched  
2 telephone network is logically derived from an Internet Service Provider (ISP)  
3 subnetwork identifier of a Network Access Server (NAS) of the ISP.--

1 --27. Apparatus for use in providing Internet service to an endpoint, the  
2 apparatus comprising:  
3 a device for (a) specifying routing information for an endpoint, wherein the  
4 routing information specifies primary and alternative Internet Protocol (IP) addresses,

5 and (b) communicating data to the endpoint using the specified primary IP address over  
6 a first cable-based channel except during periods of service interruption in which one of  
7 the alternative IP addresses are used for communicating data over a second non-  
8 cable-based communications channel.--

1 --28. The apparatus of claim 27 wherein the device is a part of a cable  
2 television network (CATV).--

1 --29. Apparatus for use in providing Internet service to an endpoint, the  
2 apparatus comprising:

3 a device for routing data to the endpoint as a function of a routing table stored  
4 therein such that during periods of service interruption on a primary communications  
5 channel data is routed to the endpoint via a secondary communications channel,  
6 whereas data is routed to the endpoint via the primary communications channel  
7 otherwise and wherein the primary communications channel is physically different from  
8 the secondary communications channel.--

1 --30. The apparatus of claim 29 wherein the device is a part of a cable  
2 television network (CATV).--

1 --31. A system for use in providing Internet service, the system comprising:

2 a cable head-end router for providing Internet Protocol (IP) packets intended for  
3 subsequent conveyance over a primary cable channel; and

4 a cable modem data termination system responsive to the provided IP packets  
5 for routing the IP packets to an endpoint as a function of a routing table stored therein  
6 such that during periods of service interruption on the primary cable channel the IP  
7 packets are routed to the endpoint via a secondary non-cable communications channel,  
8 whereas the IP packets are routed to the endpoint via the primary cable channel  
9 otherwise.--

1 --32. A system for use in providing Internet service, the system comprising:

2 a cable head-end router for providing Internet Protocol (IP) packets that include  
3 a destination field having a value associated with a first IP address; and

4 a cable modem data termination system responsive to the provided IP packets  
5 for communicating the IP packets to the endpoint over a cable-based communications  
6 channel using the first IP address except during periods of service interruption in which